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Intellectual Property Department  
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EXAMINER
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SUNG, GERALD LUTHER

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PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* PETER TIEMANN and IRIS OLTMANNS

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Appeal 2009-009301  
Application 10/524,523  
Technology Center 3700

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Before: WILLIAM F. PATE III, LINDA E. HORNER, and  
STEFAN STAICOVICI, *Administrative Patent Judges*.

PATE III, *Administrative Patent Judge*.

DECISION ON APPEAL

## STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134 from a rejection of claims 8 and 11-15. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse, and enter a new ground of rejection of claims 8 and 11-15. We also note that the Drawings do not show claimed features.

The claims are directed to a gas turbine combustion chamber. Claim 8, reproduced below, is illustrative of the claimed subject matter:

8. A gas turbine combustion chamber, comprising:
- a combustion chamber wall and an attached liner element enclosing a wall cooling chamber;
  - a manhole through the combustion chamber wall to access a combustion chamber interior;
  - a manhole cover to seal the manhole; and
  - an inner cooling chamber arranged within the manhole cover;
- wherein the manhole cover seals off the inner cooling chamber of the manhole cover from the combustion chamber interior, and
- wherein the inner cooling chamber of the manhole cover is connected for fluid flow purposes to the wall cooling chamber of the combustion chamber wall.

## REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

DuBell	US 3,978,662	Sep. 7, 1976
Stanke	US 4,189,352	Feb. 19, 1980
Albrecht	US 6,415,724 B1	Jul. 9, 2002
Babcock	GB 626,249	Jul. 12, 1949

## REJECTIONS

Claims 8 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Babcock, Albrecht, and DuBell. Ans. 3.

Claims 12-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Babcock, Albrecht, DuBell, and Stanke. Ans. 5.

### OPINION

*The Examiner's rejection of claims 8 and 11 as being unpatentable over Babcock, Albrecht, and DuBell, and the Examiner's rejection of claims 12-15 as being unpatentable over Babcock, Albrecht, DuBell, and Stanke are reversed.*

The issue regarding these rejection can be reduced to whether the Examiner, by offering technical reasoning, has met his burden of establishing obviousness under 35 U.S.C. § 103(a) by establishing that it would have been obvious to one of ordinary skill in the art to connect, for fluid flow purposes, the inner cooling chamber of the manhole cover to the wall cooling chamber of the combustion chamber wall, without factual support to show this technique was known in the art. App. Br. 5-6; Ans. 3-4, 8-9.

We recognize that “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007). An obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* at 418. However, the claimed invention “must be viewed not after the blueprint has been drawn by the inventor, but as it would have been perceived in the state of the art that existed at the time the invention was made.” *Sensonics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1570 (Fed. Cir. 1996) (citing *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138 (Fed. Cir. 1985)).

Babcock is cited by the Examiner for the disclosure of a combustion chamber with fluid cooled walls having access doors. Ans. 3. DuBell is relied upon for the liner arrangement. *Id.* Stanke is relied upon for the sealing arrangement. Ans. 5. Albrecht is the only reference that deals with a door, read as a “manhole cover,” having an “inner cooling chamber.” Ans. 3-4. Albrecht teaches a door 20 having an inlet 60 that supplies water to a serpentine path 45 in the door and to an outlet 50. Col. 2, ll. 48-67, fig. 2. Albrecht further discloses separate tubes 200 cool the furnace wall 210. Col. 2, ll. 45-47; fig. 4.

The Examiner proposes that it would have been obvious to fluidically connect Albrecht’s door cooling path with the cooling path inside the chamber walls to reduce the number of pumps required and provide a more uniform temperature at the chamber wall. Ans. 8-9. The Examiner admits that there is nothing in the cited prior art to demonstrate this proposed modification. The Examiner relies solely upon the reasoning articulated in the Answer to conclude that it would have been obvious.

Although the Examiner’s reasoning appears to have a rational underpinning, this reasoning must be weighed against the portions of Albrecht’s disclosure that would discourage or prevent one of ordinary skill in the art from making the proposed modification. For example, Albrecht teaches that it is advantageous that the door cooling path 45 is fed independently of the chamber cooling tubes 200. *See* Col. 3, ll. 20-29. Albrecht’s chamber cooling tubes 200 and door cooling path 45 are provided on opposite sides of the furnace wall 210. Thus, fluidically connecting them, as the Examiner suggests, might require additional and/or extensive modifications to the furnace itself.

Weighing the Examiner's proposed reasoning, and the factual record, we cannot agree that the cited prior art or the understanding of one of ordinary skill, would have rendered obvious connecting, for fluid flow purposes, the inner cooling chamber of the manhole cover to the wall cooling chamber of the combustion chamber wall as required by independent claims 8 and 15. Absent some factual support demonstrating such a technique was known in the art, we are forced to conclude that the Examiner improperly relied upon hindsight in reaching the conclusion of obviousness. Thus, the rejections of claims 8 and 11-15 cannot be sustained.

*Pursuant to our authority under 37 C.F.R. § 41.50(b), we enter a new ground of rejection for claims 8 and 11-15 under 35 U.S.C. § 112, 1<sup>st</sup> paragraph as failing to comply with the enablement requirement.*

The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of *Minerals Separation v. Hyde*, 242 U.S. 261, 270 (1916) which posed the question: is the experimentation needed to practice the invention undue or unreasonable? That standard is still the one to be applied. *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988).

Determining enablement is a question of law based on underlying factual findings. *In re Vaeck*, 947 F.2d 488, 495 (Fed. Cir. 1991). The determination that "undue experimentation" would have been needed to make and use the claimed invention is not a single, simple factual determination. Rather, it is a conclusion that may be reached by weighing some or all of the following non-exhaustive list of factual considerations: (A) the breadth of the claims; (B) the nature of the invention; (C) the state of the prior art; (D) the level of one of ordinary skill; (E) the level of

predictability in the art; (F) the amount of direction provided by the inventor; (G) the existence of working examples; and (H) the quantity of experimentation needed to make or use the invention based on the content of the disclosure. *Wands*, 858 F.2d at 737.

Appellants point to paragraph [0024] of the Specification for support for the limitation “wherein the manhole cover seals off the inner cooling chamber of the manhole cover from the combustion chamber interior, and wherein the inner cooling chamber of the manhole cover is connected for fluid flow purposes to the wall cooling chamber of the combustion chamber wall” of claim 8. App. Br. 2-3. Appellants cite the same paragraph for similar limitations in claim 15. App. Br. 3-4. Paragraph [0024] provides:

Figure 2 shows a partial cross-section of the combustion chamber wall 23 with a manhole 27, into which a manhole cover 28 is inserted. The manhole cover 28 has a cover upper section 29 which is configured in a similar manner to the combustion chamber wall 23, and a cover liner 30. An inner cooling chamber 31 of the manhole cover 27 is enclosed between the cover upper section 29 and the cover liner 30, which are also referred to as cover elements respectively. A wall cooling chamber 26 is correspondingly enclosed between the combustion chamber wall 23 and a liner element 25 attached to this. The inner cooling chamber 31 of the manhole cover 27 is connected to the wall cooling chamber 26 of the combustion chamber wall 23 such that the combustion air can flow unhindered, perpendicular to the plane shown.

Thus, there is some unillustrated connection between the rectangular (Spec. 6, para. [0025]) manhole cover and the chamber wall that allows air to flow unhindered, perpendicular to the plane shown in Figure 2. The Specification also provides that “[l]eak-tight sealing of the combustion chamber interior is guaranteed in all operating states by means of the manhole cover.” Spec. 2, para. [0007]. The only structure disclosed for sealing is U-shaped fixing

element 43. Fixing element 43 prevents the escape of cooling air from the cooling chambers 26, 31 to the combustion chamber 24 by channeling any air that escapes from the cooling chambers to the burners 10. Spec. 7, para. [0027]. There is no disclosure that a U-shaped fixing element is provided at the interfaces between the combustion chamber and manhole cover located into, and out of, the page as viewed in Figure 2. Even if the U-shaped fixing element 43 were present at these locations, it would not allow for a fluidic connection between cooling chambers 26, 31. *See* Fig. 2.

Thus, the Specification provides no direction or working examples respecting how to form the other two unillustrated joints of the rectangular manhole cover. These joints are critical for providing both the sealing and fluidic connection claimed. The environment is one of extremely harsh thermal and fluidic conditions and, therefore, is largely unpredictable. Thus, based upon Appellants' disclosure, one of ordinary skill in the art would not be able to make or use the invention without undue experimentation. We therefore conclude that Specification does not enable the claimed elements "wherein the manhole cover seals off the inner cooling chamber of the manhole cover from the combustion chamber interior, and wherein the inner cooling chamber of the manhole cover is connected for fluid flow purposes to the wall cooling chamber of the combustion chamber wall."

We additionally note that in order to comply with 37 C.F.R. § 1.83(a) the drawings must show every feature of the invention specified in the claims. The Drawings do not show "the inner cooling chamber of the manhole cover is connected for fluid flow purposes to the wall cooling chamber of the combustion chamber wall" as recited in claims 8 and 15.



## DECISION

The Examiner's rejection of claims 8 and 11 as being unpatentable over Babcock, Albrecht, and DuBell and the Examiner's rejection of claims 12-15 as being unpatentable over Babcock, Albrecht, DuBell, and Stanke, are reversed.

Pursuant to our authority under 37 C.F.R. § 41.50(b), we enter a new ground of rejection for claims 8 and 11-15 under 35 U.S.C. § 112, 1st paragraph as failing to comply with the enablement requirement.

## FINALITY OF DECISION

This decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b) (2008). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that Appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the Examiner, in which event the proceeding will be remanded to the Examiner. . . .

(2) *Request rehearing*. Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

REVERSED; § 41.50(b)

Appeal 2009-009301  
Application 10/524,523

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